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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,531	08/10/2001	Michael Binnard	07303.0037	4730

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Washington, DC 20005-3315

EXAMINER

FLETCHER, MARLON T

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,531

Applicant(s)

BINNARD, MICHAEL

Examiner

Marlon T Fletcher

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4-6, 8, 9, 11-15, 17, 18, 20-32, are rejected under 35 U.S.C. 102(b) as being anticipated by Osanai et al. (5,864,389).

As recited in claims 1, 2, 14, and 23-32, Osanai et al. disclose a stage assembly comprising: a guide assembly (figure 1) including: a guide bar (3) movable in a first direction, the guide bar inherently having a center of gravity and a guiding portion (column 3, lines 31-36); a stage (5) movable along the guiding portion of the guide bar in a second direction substantially perpendicular to the first direction and exerting a reaction force on the guide bar in the second direction, the stage having a center of gravity substantially positioned in a plane parallel to the first and second directions, the plane parallel to the first and second directions having the center of gravity of the guide bar substantially positioned therein as inherently understood and as discussed in column 4, lines 6-36; and an actuator component (6) positioned on the guide bar substantially in the plane parallel to the first and second directions and aligned with the center of gravity of the stage in the second direction to apply a compensating force on the guide bar to cancel the reaction force exerted by the stage as discussed in column 1, lines 54-67; column 2, lines 34-49; and disclosed in the abstract. Osanai et al. further

disclose a first actuator component (6) positioned on the guide bar and aligned with the center of gravity of the stage in the second direction to apply a compensating force on the guide bar to cancel the reaction force exerted by the stage; and a second actuator component (6) positioned on the guide bar and aligned with the center of gravity of the guide bar in the second direction to apply a force on the guide bar to control a position of the guide bar in the second direction as seen in figure 2. Osanai et al. disclose the actuator, the force acting on the first moving member, and the portion where the force acts, are a first actuator, a first force, and a first portion (figures 1-3).

As recited in claims 4, 8, 11, 17, 20, and 31, Osanai et al. disclose the stage assembly, comprising a pair of the guide assemblies spaced apart from each other in the first direction as seen in figures 1 and 3.

As recited in claim 5, Osanai et al. disclose the stage assembly, wherein the center of gravity of the stage and the center of the gravity of the guide bar are spaced apart from each other in the first direction and the guide assembly further includes another actuator component (6) positioned substantially in the plane parallel to the first and second directions (figure 2) and aligned with the center of gravity of the guide bar in the second direction to apply a force on the guide bar to control a position of the guide bar in the second direction as seen in figures 1-3.

As recited in claims 6, 9, and 15, Osanai et al. disclose the stage assembly, wherein the actuator component is positioned on one side of the guide bar and the another actuator component is positioned on the other side of the guide bar as seen in figure 2.

As recited in claims 12, and 21, Osanai et al. disclose an exposure apparatus including the stage assembly as discussed in column 3, lines 21-23. Inherently, Osanai et al. provide an illumination system configured to irradiate radiant energy in that the system is an exposure apparatus..

As recited in claims 13, and 22, Osanai et al. disclose an exposure apparatus including an object of manufacture discussed in column 3, lines 36-40.

As recited in claim 18, Watson discloses the stage assembly, wherein the first and second actuator components are positioned on one side of the guide bar as seen in figure 5.

As recited in claim 32, Osanai et al. disclose an exposure apparatus including an illumination system and carries an object as seen in figures 1 and 2, and as discussed in column 1, lines 7-14.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 7, 10, 16, and 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Osanai et al. in view of Yaun et al. (6,130,517).

Osanai et al. are discussed above. Osanai et al. do not disclose the use of E cores as actuators nor an exposure apparatus.

However, as recited in claims 3, 7, 10, 16, and 19, Yaun et al. disclose a stage assembly, wherein the actuator component is a pair of E cores spaced apart from each other in the second direction as seen in figure 1.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Yaun et al. with the teachings of Osanai et al., because Yaun et al. enhances the combination, by providing an optional type of actuator as well as optional positioning of the actuators.

Response to Arguments

5. Applicant's arguments filed 12/15/2003 have been fully considered but they are not persuasive.

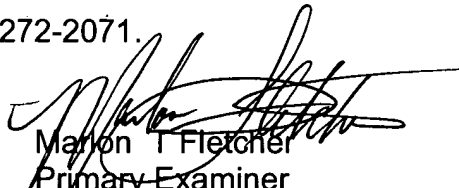
The applicant makes arguments directed to the prior art, in which the applicant states that the prior art of record fails to disclose teachings of the center of gravity. While the examiner agrees that the teaching are not found in the references, the teachings are inherent. Every object has a center of gravity. The stage is in a plane parallel with the first and second directions. The actuator is in a plane parallel to the stage. Since the components are in parallel planes the center gravity of each object would also be in a parallel plane. In view of figure 1 of Osanai et al. and figure 2 of applicant's invention, the operation, components, and locations of components are very similarly arranged. The examiner disagrees with applicant's comments.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 571-272-2071.


Marlon T Fletcher
Primary Examiner
Art Unit 2837

MTF
March 22, 2004